

Amendments to the Claims

Please amend claims 1-3, 5-7 and 9. Please add new claims 10-17. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask arranged such that holograms displayed on the SLM are viewed through the phase mask, wherein the phase mask has a resolution higher than the predetermined resolution.
2. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask arranged such that holograms displayed on the SLM are viewed through the phase mask, wherein the phase mask co- operates with the SLM such that the repeating pattern of holographic elements has a higher resolution than the predetermined resolution.
3. (Currently amended) A holographic display according to claim 1 or 2 wherein the pixellated hologram display device is arranged to display binary phase holograms and the phase mask has four phase levels.
4. (Original) A holographic display according to claim 3, wherein the display is constructed and arranged to operate at a given optical wavelength, and taking one of the phase levels as a reference, the others provide respective phase shifts of $\pi/2$, π and $3\pi/2$ at the given wavelength.

5. (Currently amended) A holographic display according to claim 1 or 2, wherein the pixellated hologram display device is arranged to display four phase holograms and the phase mask has two phase-levels.
6. (Currently amended) A holographic display according to claim 1 or 2, wherein the ~~hologram display device comprises an SLM~~ SLM is a liquid crystal SLM.
7. (Currently amended) A method of increasing the viewing angle of a hologram on a pixellated hologram display device having a predetermined resolution, the method comprising:
_____disposing a pixellated phase mask with respect to the pixellated hologram display device for viewing the hologram, wherein the resolution of the pixellated phase mask is greater than that of the pixellated hologram display device.
8. (Original) A method of viewing a pixellated hologram, the pixels of the hologram having a predetermined resolution, comprising viewing the hologram through a pixellated phase mask, wherein the resolution of the pixellated phase mask is greater than that of the pixellated hologram.
9. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask arranged such that holograms displayed on the SLM are viewed through the phase mask, wherein the phase mask is arranged so that respective locations where its pixels meet are disposed above generally central regions of the pixels of the display device.
10. (New) A holographic display as claimed in claim 6 configured to calculate holograms for display on said SLM by an OSPR-type method in which noise in said replay image is reduced by displaying a plurality of holograms per image frame.

11. (New) A method of displaying a holographically generated image, the method comprising:
 - providing a pixellated hologram;
 - providing a pixellated phase mask adjacent said hologram; and
 - displaying an image replayed by said hologram such that when said image is replayed each pixel of said hologram is modified by pixel phases of at least two pixels of said pixellated phase mask;

wherein said pixellated phase mask cooperates with said pixellated hologram such that a viewing angle of said replayed image is enhanced by diffraction by said pixellated phase mask.
12. (New) A method as claimed in claim 11 wherein said pixellated hologram is provided on a pixellated spatial light modulator (SLM).
13. (New) A method as claimed in claim 12 wherein said pixellated phase mask has smaller pixel pitch than said SLM, and wherein a number of addressable points on a replay field of said replayed image is enhanced by said pixellated phase mask.
14. (New) A method as claimed in claim 12 further comprising calculating holograms for display on said SLM by an OSPR-type method in which noise in said replayed image is reduced by displaying a plurality of holograms per image frame.
15. (New) A holographic display for displaying a holographically generated image, the holographic display comprising:
 - a pixellated spatial light modulator (SLM) configured to display a pixellated hologram;
 - a pixellated phase mask adjacent said hologram; and

wherein said SLM and said pixellated phase mask are configured such that when an image is replayed by said hologram each pixel of said hologram is modified by pixel phases of at least two pixels of said pixellated phase mask; and

wherein said pixellated phase mask cooperates with said pixellated hologram such that a viewing angle of said replayed image is enhanced by diffraction by said pixellated phase mask.

16. (New) A holographic display as claimed in claim 15 wherein said pixellated phase mask has a smaller pixel pitch than said SLM, and wherein a number of addressable points in a replay field of said replayed image is enhanced by said pixellated phase mask.
17. (New) A holographic display as claimed in claim 15 further configured to calculate holograms for display on said SLM by an OSPR-type method in which noise in said replayed image is reduced by displaying a plurality of holograms per image frame.